



SECRET 044400

6. The semiconductor device according to claim 1, wherein said first insulation film includes an inorganic SOG film.

7. The semiconductor device according to claim 1, wherein said impurities include at least one element selected from the group consisting of argon, boron, nitrogen, and phosphorus.

8. The semiconductor device according to claim 1, wherein an upper surface of said first insulation film is planarized.

9. A method of manufacturing a semiconductor device comprising the steps of:

forming a first insulation film on a conductive layer formed on a substrate,

introducing impurities into said first insulation film, and

forming <sup>an intrusion prevention film</sup> ~~a film~~ to substantially prevent the impurities introduced into said first insulation film from entering said conductive layer prior to said step of forming said first insulation film.

10. The manufacturing method of a semiconductor

device according to claim 9, wherein said intrusion prevention film includes at least one material selected from the group consisting of silicon oxide, silicon  
5 nitride, Ti, TiN, W, WN<sub>x</sub> and TiW.

11. The method of manufacturing a semiconductor device according to claim 9, further comprising the step of forming a second insulation film on said conductive layer and said intrusion prevention film prior to said  
5 step of forming the first insulation film.

12. The method of manufacturing a semiconductor device according to claim 11, wherein said second insulation film includes a film less hygroscopic than said first insulation film.

13. The method of manufacturing a semiconductor device according to claim 9, further comprising the step of forming a third insulation film on said first  
insulation film after said step of implanting impurities  
5 into the first-insulation film.

14. The method of manufacturing a semiconductor device according to claim 9, wherein said first insulation film includes silicon oxide containing at least 1% of

carbon.

15. The method of manufacturing a semiconductor device according to claim 9, wherein said first insulation film includes an inorganic SOG film.

16. The method of manufacturing a semiconductor device according to claim 9, wherein said step of introducing impurities is carried out by ion implantation.

17. The method of manufacturing a semiconductor device according to claim 9, wherein said impurities include at least one element selected from the group consisting of argon, boron, nitrogen, and phosphorus.

18. A method of manufacturing a semiconductor device comprising the steps of:

forming a conductive layer on a substrate,

forming a film on said conductive layer, said film including at least one material selected from the group consisting of silicon oxide, silicon nitride, Ti, TiN, W, WN<sub>x</sub> and TiW, for substantially preventing impurities implanted from above of said conductive layer from intruding into said conductive layer,

patterning said conductive layer and said intrusion

prevention film,

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forming a first insulation film on said patterned  
conductive layer and intrusion prevention film, and  
implanting impurities into said first insulation film.

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